



## Waste Reduction and Recycling Opportunities for...

# MANUFACTURING

**FACT SHEET #4** from the Washtenaw County Dept. of Environment & Infrastructure Services - Public Works Division

## Why reduce waste and recycle?

Washtenaw County has taken a close look at the types of waste being generated by area businesses. We've found that a lot of material is being dumped as a waste rather than utilized as a **resource**. The state of Michigan agrees, and actually requires through state law that 25% of waste generated by residences and businesses be prevented from landfill or incinerator disposal. In Washtenaw County, this means diverting nearly 75,000 tons of waste per year! This is a big job to tackle, and one that we cannot do alone. So we're asking for your help.

## How can I help?

You can help by establishing a waste reduction and recycling program within your business. You've already taken the first step by reading this brochure! Take a look around your business. What kinds of things are being thrown away? Can any of them be separated out for recycling? Are any of them "Target Materials"?

## What are "Target Materials"?

Washtenaw County has developed a series of "Targeted Materials Listings" for commercial businesses. The listings are specific to particular business sectors. For example, items commonly generated for recycling in restaurants may differ greatly from those generated in offices. Page two will provide to you the materials which should be targeted for recycling in the manufacturing industry.

## Manufacturing the Future

Each day, manufacturing companies throughout Washtenaw County toss valuable materials into the trash. Many materials commonly generated in the manufacturing industry, such as cardboard, paper and plastics, could be easily recovered for recycling. Washtenaw County is committed to making a difference in our business community. Please read on to find out how waste reduction and recycling could work for your organization.

## Recycling Saves "Green" for Local Manufacturer



Despite claims otherwise, many companies are finding that recycling is not only good for the environment but good for the pocketbook as well. **Manchester Plastics**, a local manufacturer of automotive moldings, is one such company. Like many other manufacturers, this company generates large quantities of waste that has recovery potential for recycling. Managers were aware of this situation and were interested in finding a way to cut their disposal costs.

Soliciting the input of the Western Washtenaw Recycling Authority (WWRA), a local recycling collector and processor, the decision was made to implement a recycling program for corrugated cardboard. Cardboard was targeted because it was generated

in large quantities and could be easily separated out of the waste stream. Bins were set up at several accessible areas throughout the plant for collection. A roll-off container was delivered, and the plant was added to WWRA's commercial recycling route.

This cardboard recycling program has been successfully operating for over a year and a half. Managers are so pleased with the program that they recently began recycling office paper and aluminum cans as well. This little bit of extra effort has cut their waste stream in half, having collected over 1600 cubic yards of cardboard in 1994. Company representatives boast that the program has more than paid for itself due to the decrease in their overall disposal cost.

## What if I need more information?

There are many sources of additional information for recycling in the manufacturing industry. Please contact Washtenaw County Public Works at 994-2398 and ask to speak to the Solid Waste Coordinator. Additional printed materials, contact names, and case studies may be available to suit your particular needs.

# THREE EASY STEPS TO A "GREEN" BUSINESS

## STEP 1: Identify Your Target Materials

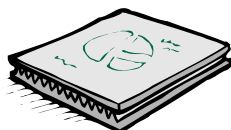
The following items should be included in your "Green Business" Management Plan. Your program should address these items at a minimum. There are likely many other materials which could be included, and we encourage you to investigate your options for those items as well.

### Target Materials for Manufacturing Recycling:

Newspaper



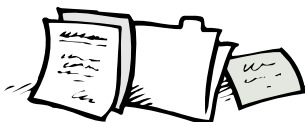
Cardboard



White Paper/  
Computer  
Paper



Mixed Office Paper  
(colored, glossy, etc.)



Plastics  
(HDPE)



Pallets/Wood



## STEP 2: Consider Waste Reduction Alternatives

The best way to manage your waste is to not create it at all! Consider these ideas:

### IN THE FACTORY:

- Substitute non-hazardous ingredients for hazardous materials if possible.
- Mix only the volume of material needed to fill an order.
- Purchase durable equipment and machines that can be easily repaired. Perform routine maintenance on all machines.
- Reclaim reusable parts from old equipment.
- Promote the importance of quality control. Encourage employees to set aside defective materials to be sent back to the supplier. According to Orr and Boss, a waste reduction consulting firm, waste from raw or defective materials can take up as much as 90 percent of a manufacturing plant's expenses.
- Encourage employees to develop and implement their own waste reduction ideas.
- Purchase materials in concentrates when possible.

### IN THE SHIPPING DEPARTMENT:

- Request that products be shipped in reusable/recyclable containers.
- Use reusable/recyclable containers to ship your products.

- Reuse cardboard boxes or give them away to your employees.
- Reuse wood pallets. Those that are not in reasonable condition may be dismantled and used as fire wood or shredded for boiler fuel or landscaping mulch. Employees or the general public may use them for projects at home.
- Purchase products with minimal packaging.
- Shred or crumple newspaper or office paper and use them as padding in shipments.
- Reuse shrinkwrap as padding in shipments.

### IN THE OFFICE:

- Use both sides of paper when copying documents.
- Use the back sides of draft copies for scratch paper.
- Print only the number of copies needed.
- Correspond through electronic mail if possible.
- Store information on disks rather than paper.

### OTHER:

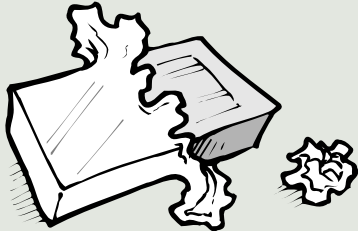
- Keep recoverable materials such as cardboard separate from waste. Compact or bale large quantities. Share compactors or balers with neighboring companies if you have small quantities.

## STEP 3: Establish a Recycling Program

Each business is unique and has different needs to fulfill in a recycling program. Consider which items on the target materials list you would like to recycle.

Companies who generate higher volumes may find they can be paid for some materials. Call the DPW for an up to date list of materials, minimum quantities and vendors that serve your area.

## Beating the (Shrink) Wrap



Does your company throw away large quantities of shrink wrap? Believe it or not, many types of shrink wrap **can** be recycled. Shrink-wrap can be manufactured out of a variety of materials, yet is most commonly produced from low density polyethylene (LDPE). Several processors in southeast Michigan are able to process this film-like material into hard plastic "pellets." These pellets can be added to virgin materials in the production of new plastic products including new plastic bags.

Washtenaw County has compiled a listing of plastic processors throughout the area. Before a processor is able to tell you whether or not the material you generate is recyclable, they will need to know what quantities you have and what type of plastic it is. Typically companies that generate larger quantities are able to market their materials easier. Sending a sample of your material to a recycler will help them determine its recyclability.

To learn more about recycling shrink-wrap or to obtain a list of recyclers, please contact the DPW at (313) 994-2398.

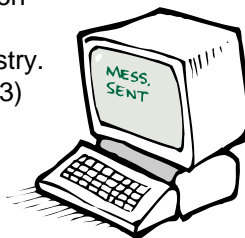
## FYI:

Approximately 73.3 million tons of paper and paperboard are generated each year. Paper has an overall recovery rate of 28.6%. About 49% of cardboard, 42.5% of newspapers, and 26.5% of office paper are recycled.



**WASTEASSESSMENT CONSULTING FIRMS**  
Waste Reduction & Technology Transfer Foundation (WRATT) offers a free waste assessment through the Retired Engineer Technical Assistance Project (RETAP). Contact Julie Feldspaugh at Michigan Department of Natural Resources Environmental Assistance Center at (517) 373-9400 for more information.

**ON-LINE ECOLOGY**  
The Internet also has public and private bulletin board systems, databases, and information services dedicated to pollution prevention in the manufacturing industry. Contact DPW at (313) 994-2398 for more information.



## How Can I Recycle More?

Washtenaw County is asking you to consider developing recycling programs for the "Targeted Materials" listed on page 2. There are, however, many other items in the waste stream which can be recycled.

**Glass bottles, Aluminum cans, Metals, and Toner Cartridges** are also generated in the manufacturing industry and can be recycled. There are several drop-off centers throughout the County where these items can be taken for recycling. Contact DPW at (313) 994-2398 for information on the center located nearest you.

## Need Assistance?

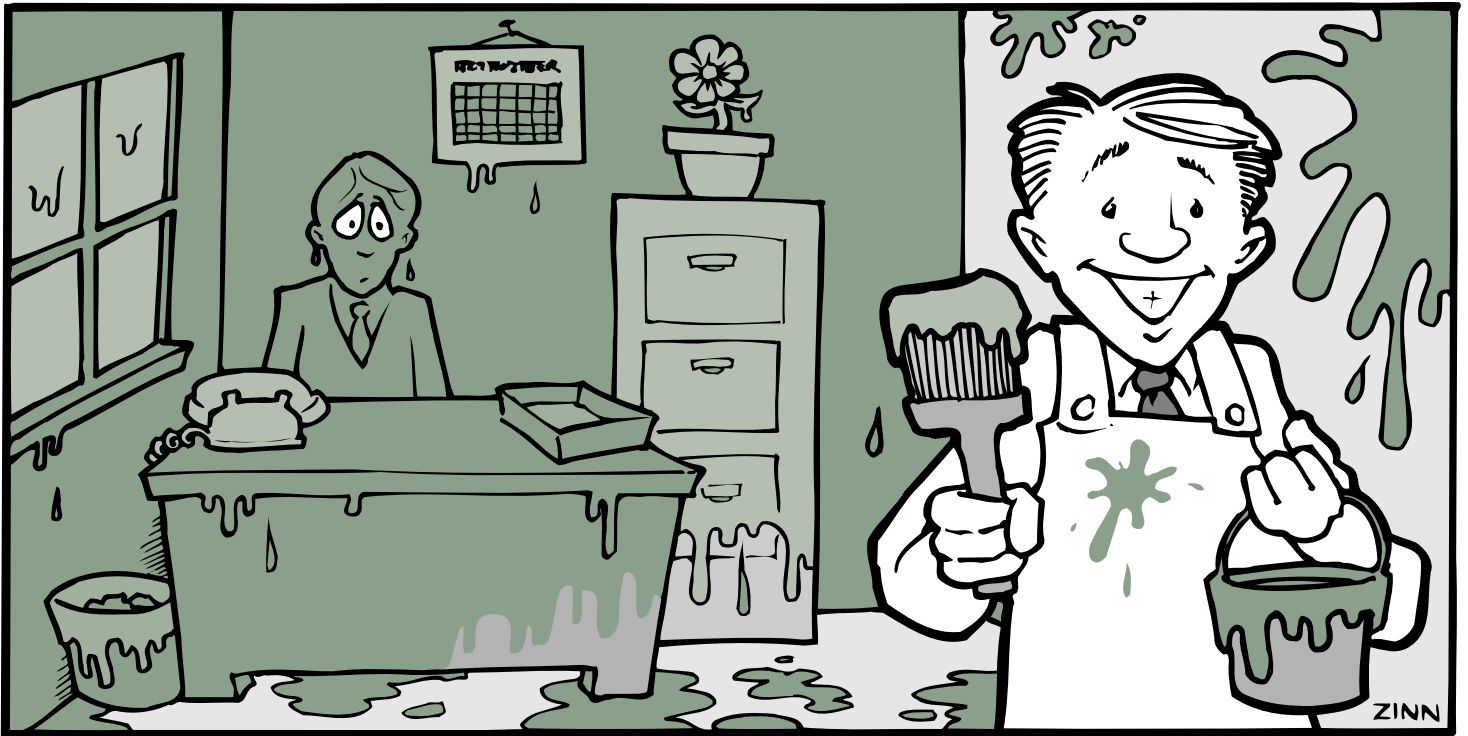
A network of knowledgeable solid waste managers has been assembled throughout the County and is available to advise you on how to start a program. Please contact the DPW at **994-2398** for the name of an expert in your area.

## Recycling Haulers Servicing Washtenaw County

Action Disposal & Recycling .....	313-485-4666
Browning Ferris Industries, Inc. (BFI) .....	313-729-8200
Calvert's Roll-Off Container .....	313-994-5256
City Environmental Services, Inc. ....	313-292-0800
Daily Recycling of Michigan .....	313-654-9800
Dinverno, Inc. ....	313-892-3535
Laidlaw Waste Systems .....	313-292-5100
Liberty Landfill, Hauling Operations Dept .....	517-787-1177
Mister Rubbish .....	800-971-7490
Recycle Ann Arbor .....	313-971-9676
Tiger Rose Trucking .....	810-437-9210
Western Washtenaw Recycling Authority .....	313-475-6160

This listing represents a partial listing of haulers who have indicated an interest in servicing businesses in Washtenaw County. This listing should not be construed as an endorsement of any particular company or program. If your company would like to be added to the listing, please contact the DPW at 994-2398.

**There's more than one way to have a green business...**



**...look inside for other options.**



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